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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,648	02/21/2001	Tetsuo Suzuki	0303-0441P	7080

2292 7590 11/28/2003

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EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 11/28/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/788,648

Applicant(s)

SUZUKI ET AL.

Examiner

Virginia M Kibler

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show belt 14 as described in the specification (Page 13, lines 18 and 23). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: “rings 13” should be changed to “rings 12” on page 2, line 3 and page 9, line 13; “transmission for.” should be changed to “transmission.” on page 3, line 2; and “not sown” should be changed to “not shown” on page 10, line 16.

Appropriate correction is required.

Claim Objections

3. Claim 8 is objected to because of the following informalities: “a recesses” should be changed to “a recess” in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Goodrich et al. (5,823,356) in view of Mahdavi et al. (5,345,514).

Regarding claims 1 and 3, Goodrich et al. ("Goodrich") discloses a method of sorting out defect-free workpieces including checking dimensional characteristics to reject the workpieces not within a predetermined tolerance range (Col. 11, lines 11-31), thereby sorting out those which comply with the predetermined tolerance range. The Examiner takes Official Notice that inserting a workpiece into a passage in order to check a predetermined width is well known. It would have been obvious to one of ordinary skill in the art to have modified the check of dimensional characteristics disclosed by Goodrich to include using a passage to check the predetermined width because it is an alternative method to separate rejects from acceptable parts. Goodrich further discloses applying a gage having a shape complementary to a required shape for a functional portion of the workpieces, to the workpieces which have been sorted out, and sorting out those workpieces whose functional portion has a shape complementary to the shape of the gage, as defect-free workpieces (Col. 6, lines 15-25 and lines 39-44; Col. 9, lines 6-10 and lines 41-48). Goodrich discloses that it is well known to inspect a workpiece based on a video

Art Unit: 2623

image (Col. 2, lines 5-9), but does not specify analyzing images of the workpieces to compare the images with a reference workpiece image. However, Mahdaviéh et al. ("Mahdaviéh") teaches that is known to analyze respective images of workpieces to compare the images with a template or reference workpiece image, reject workpieces which have a portion different from the reference workpiece (Col. 5, lines 28-55), thereby sorting out other workpieces. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the dimensionality check disclosed by Goodrich to further include comparing images of the workpieces to reference images as taught by Mahdaviéh because it is well known methodology routinely implemented in the art for the detection of defects in a workpiece.

Regarding claims 2 and 4, Goodrich does not recognize converting images of the workpieces into respective binary images. However, Mahdaviéh teaches that it is known to convert the images of workpieces into respective binary images each having a predetermined number of pixels in a unit area (Col. 5, lines 56-68), comparing the binary images with the reference workpiece image (Col. 6, lines 18-61), reject workpieces which have a portion different from the reference workpiece image (Col. 7, lines 48-65), and thereby sort out other workpieces. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the dimensionality check disclosed by Goodrich to further include comparing binary images of the workpieces to a reference image as taught by Mahdaviéh because it facilitates the identification of any suspected defect regions (Col. 8, lines 42-48).

Regarding claim 5, Goodrich discloses detecting defects (Col. 9, lines 41-48), but does not recognize the defect being the portion different from the reference element image. However, Mahdaviéh teaches that it is known to determine a defect as the portion different from the

Art Unit: 2623

reference element image (Col. 5, lines 28-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the dimensionality check disclosed by Goodrich to further include comparing images of the workpieces to reference images as taught by Mahdavih because it is well known and provides for the detection of defects in a workpiece.

Regarding claim 6, Goodrich discloses detecting numerous defects (Col. 9, lines 41-48). While Goodrich does not specify a defect including an abrasive particle it would have been obvious in light of Goodrich's disclosure to include entrapped foreign matter such as an abrasive particle as a defect because it is well known and would provide further inspection against defects which may occur.

Regarding claims 7 and 8, Goodrich discloses detecting a partial broken-off region and a recess in a surface (Col. 9, lines 42-48).

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Application/Control Number: 09/788,648

Page 6

Art Unit: 2623

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

VK

VK

11/25/03

**MEHRDAD DASTOURI
PRIMARY EXAMINER**

Mehrdad Dastouri